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FROM : [redacted] 25X1
Chief, Economics Division
Office of Global Issues

SUBJECT : Analyzing Financial Developments in LDCs

Attached is a primer done by two of our analysts describing an alternative methodology for analyzing financial developments in debt-troubled LDCs. The methodology may be especially useful to analysts newly assigned to LDC accounts. If you have any questions or comments on the material, contact [redacted] 25X1
[redacted] 25X1

[redacted] 25X1

Attachment:
Analyzing Financial Developments in LDCs: 25X1
Monetary Data as Early Warning Signs [redacted]
GI M 85-10072, March 1985, [redacted] 25X1

[redacted] 25X1

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SUBJECT: Analyzing Financial Developments in LDCs

OGI/ECD/FI [redacted] 25X1

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Central Intelligence Agency

Washington, D.C. 20505

DIRECTORATE OF INTELLIGENCE

12 March 1985

Analyzing Financial Developments in LDCs: Monetary Data as Early Warning Signs

Summary

Since late 1982, the international financial community has had access to a substantial amount of financial data on countries undertaking IMF programs, but financial information on other LDCs, especially up-to-date balance of payments and fiscal deficit data, is more limited. Central bank data, however, including those showing trends in the monetary base and net domestic and foreign assets of the central banks, are more readily obtainable and can be used as early warnings of changes in domestic and external financial conditions and as evidence of policy behavior in financially troubled countries. In particular, rapid increases in the monetary base can indicate that a central bank is following an expansionary monetary policy, while significant changes in net domestic and foreign asset positions suggest that the country may be running large fiscal and balance of payments deficits. [redacted] 25X1

According to the indicators, Colombia's domestic and external financial condition is deteriorating rapidly and, in the absence of strong adjustment measures, probably will soon lead to a rapid increase in inflation and a foreign exchange crisis. The indicators also suggest that the deterioration in Algeria, India, and Pakistan may warrant closer attention, particularly if trends

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This memorandum was prepared by [redacted] 25X1
[redacted] Office of Global Issues. Comments and queries are welcome and may be directed to the Chief, Financial Issues Branch, Office of Global Issues [redacted] 25X1 25X1

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worsen. Some countries, however, are showing substantial improvement in their financial conditions, in particular Indonesia. The data do not indicate either a large deterioration or significant improvement in the external and internal financial conditions of Bangladesh, Egypt, Malaysia, South Korea, or Thailand, although Egypt shows a consistent slow deterioration.

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Analyzing Financial Developments in LDCs: Monetary Data as Early Warning Signs

Methodology*

Data on central banks--contained in the International Financial Statistics (IFS), a monthly publication of the IMF--can be arranged into the monetary base, net domestic assets, and net foreign assets. Changes in these categories can then serve as an indication of developments in domestic and external economic performance, especially for countries suspected of having potential balance-of-payments problems. For example:

- a rapid increase in net domestic assets indicates the central bank is heavily financing government deficits;

- rapid declines in net foreign assets may indicate a balance-of-payments deficit;

- rapid rises in the monetary base suggests the central bank is running an expansionary domestic policy that will lead to a rapid increase in the money stocks and, eventually, inflation.

On the other hand, a rise in net foreign assets and stability in the monetary base and net domestic assets indicates a relatively strong position such as would occur with a current account surplus and low deficits. [redacted] 25X1

Findings

We used the methodology to examine Algeria, Bangladesh, Colombia, Egypt, India, Indonesia, Malaysia, Pakistan, Thailand, and Venezuela, countries that do not have an IMF program but who are potentially troubled debtors; in addition, South Korea was included. [redacted] 25X1

Financially Deteriorating Countries

According to the methodology, Colombia has experienced the most serious deterioration of the 11 countries. Starting in early 1983 net foreign assets of the central bank declined rapidly while net domestic assets increased. The monetary base also rose but at a less rapid rate. This information implies that the Colombian government has been running a large fiscal deficit that is being heavily financed by the central bank. The

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* A fuller discussion of the methodology can be found in attached appendix.

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data also indicate that the central bank was intervening heavily in the foreign exchange market to reduce the inflationary growth of the monetary base. If the central bank eventually exhausts its foreign exchange reserves--and these declined sharply in 1984--any additional deficit financing by the central bank would lead to a rapid increase in the monetary base, a subsequent rise in the inflation rate, and a likely balance-of-payments crisis. [redacted] 25X1

The data on India and Pakistan indicate that both countries experienced a deterioration during late 1981 through the third quarter of 1982. The deterioration in India then slowed until the third quarter of 1983, while Pakistan's external and domestic financial situation improved until fourth quarter 1983. According to the indicators, however, financial deterioration in both countries resumed in 1984. [redacted] 25X1

The information on Algeria indicates that starting in mid-1982 the government's budget deficit was heavily financed by the central bank, causing the monetary base to grow rapidly. At the same time, the central bank intervened in the foreign exchange market through purchases of its own currency. The data indicate, however, that Algeria undertook some adjustment measures in late 1983 which helped alleviate the necessity of central bank purchases of government debt. [redacted] 25X1

Financially Improving Countries

According to the indicators, Indonesia and Venezuela have demonstrated substantial improvement in their domestic and external finances over the past few years. Indonesia's improvement was the most spectacular. Starting in early 1983 Indonesia implemented adjustment measures, including devaluing its currency, reducing the public sector deficit, and enacting more market oriented policies. These measures led to a rapid inflow of foreign exchange. The central bank largely neutralized the inflationary impact of central bank purchases of foreign exchange through sales of government debt. [redacted] 25X1

The data on Venezuela indicate an improvement in domestic and external finances following some deterioration. During 1983 the government devalued the currency and substantially reduced the public sector deficit which led to an inflow of foreign exchange sufficient to alleviate the need for central bank financing of the public sector deficit. [redacted] 25X1

Other Country Situations

The economic indicators for Bangladesh, Egypt, Malaysia, South Korea, and Thailand did not indicate any strong trend of deterioration or improvement. The data on Bangladesh show that the government was heavily financing its fiscal deficit through the central bank during 1981 and early 1982; however, the deterioration was halted in mid-1982. The monetary base and net domestic assets of the central bank have been growing at a rapid

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rate in Egypt over the past three years, but net foreign assets of the central bank have been fairly stable. The data on South Korea and Thailand have fluctuated greatly over the past three years, but no long-term trend is discernible. Conversely, the indicators on Malaysia have fluctuated little. 25X1

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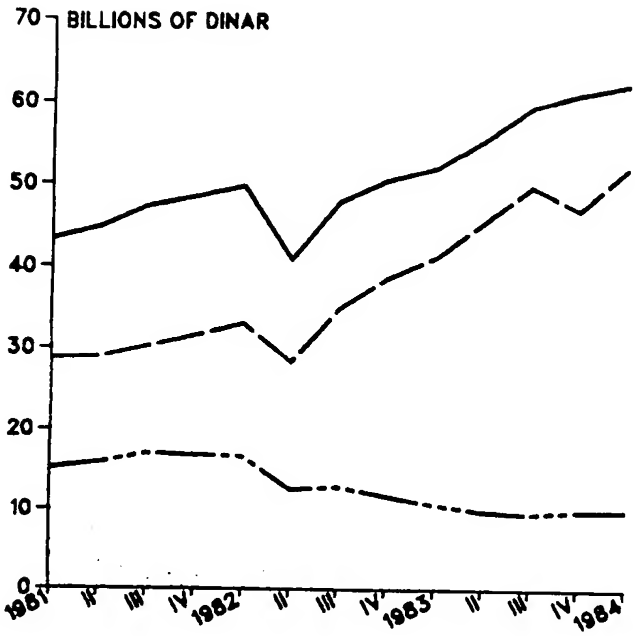
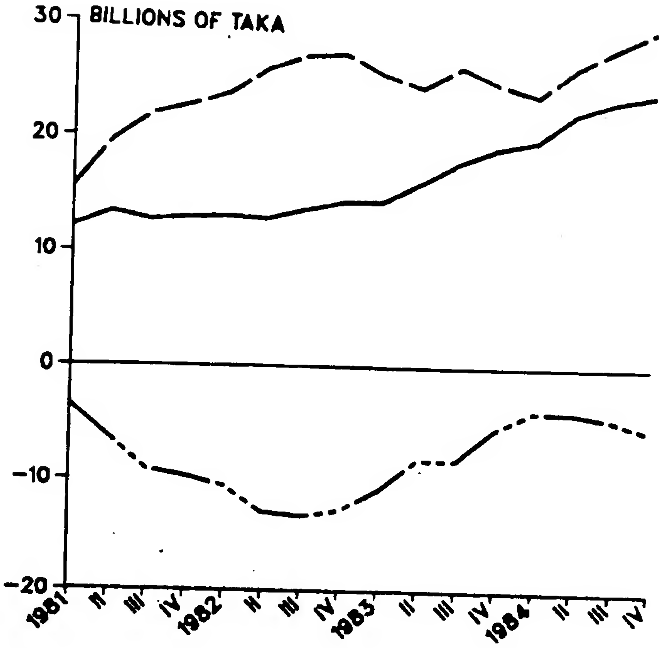
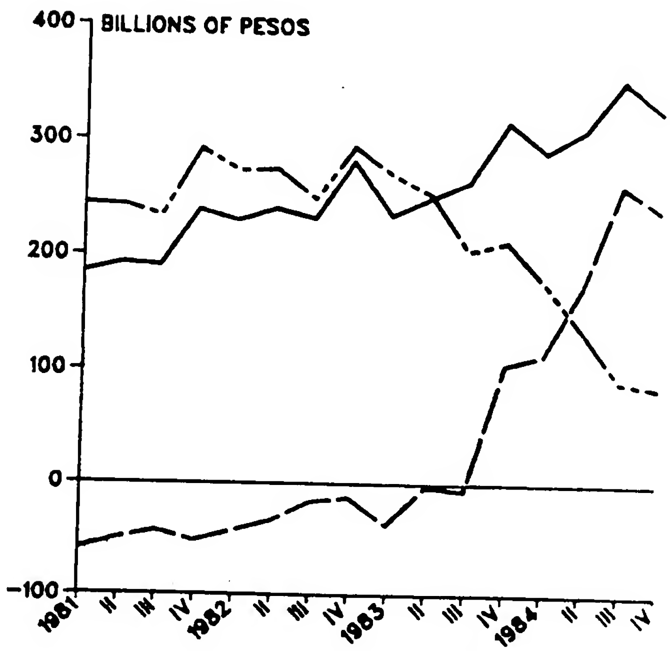
ALGERIA



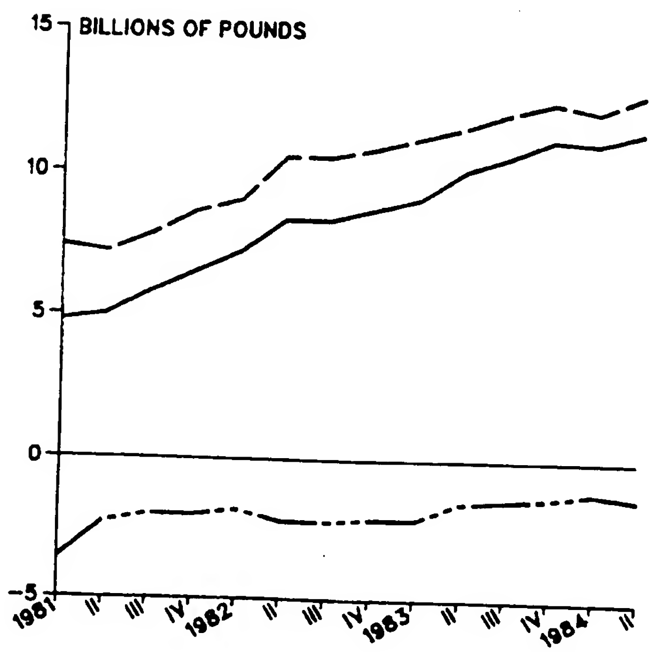
BANGLADESH



COLOMBIA

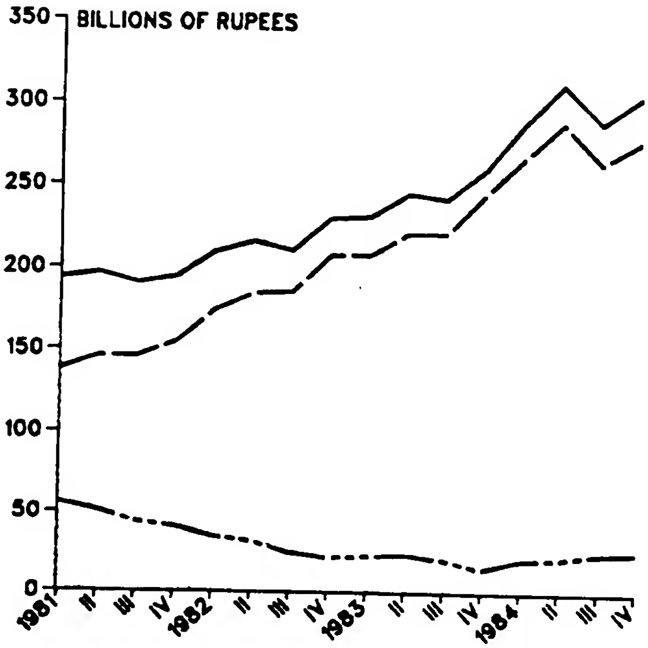


EGYPT

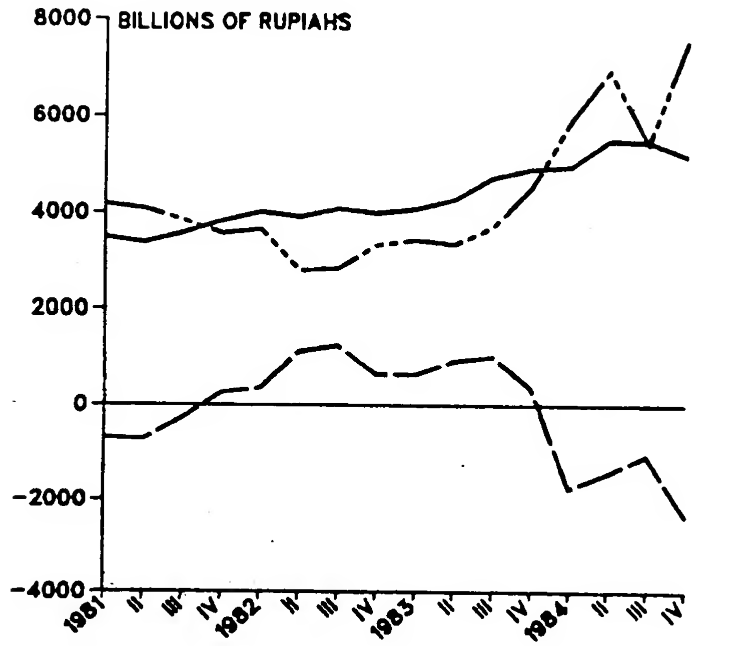


MONETARY BASE
NET DOMESTIC ASSETS
NET FOREIGN ASSETS

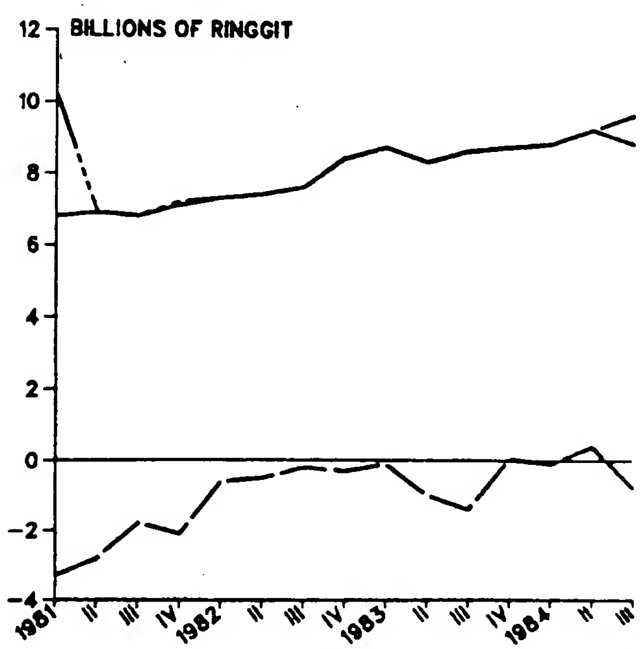
INDIA



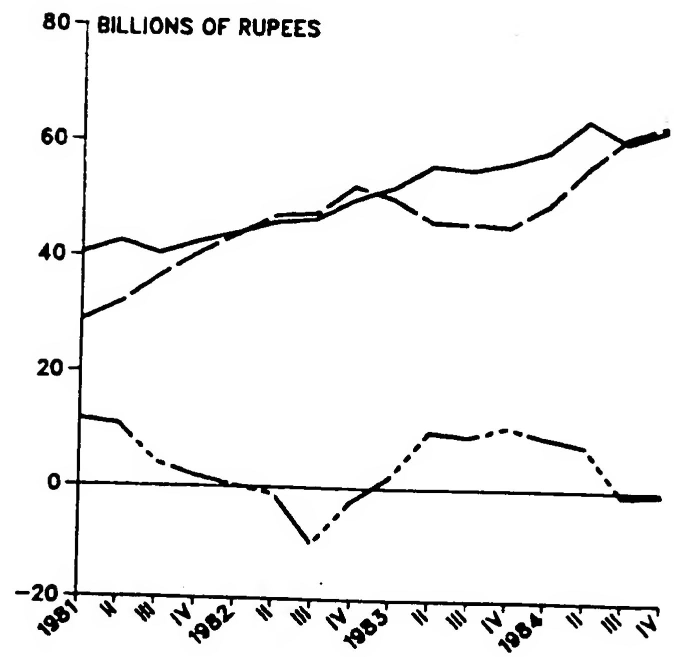
INDONESIA



MALAYSIA

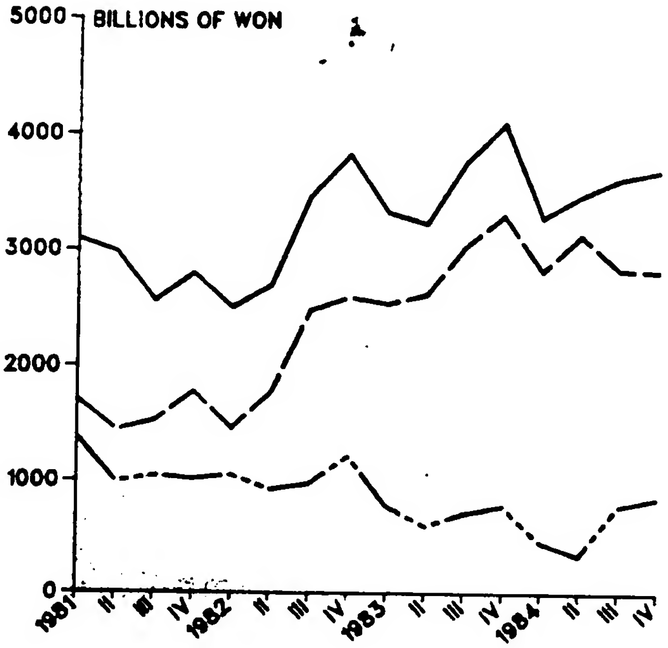


PAKISTAN

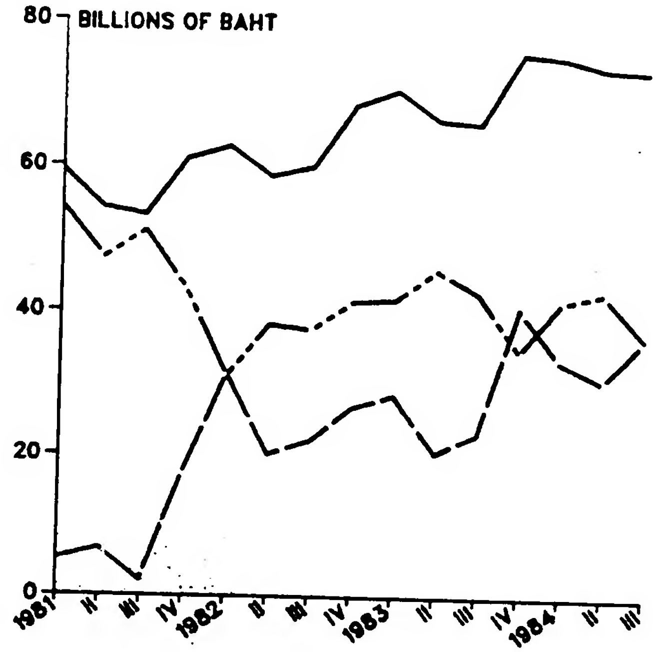


MONETARY BASE
NET DOMESTIC ASSETS
NET FOREIGN ASSETS

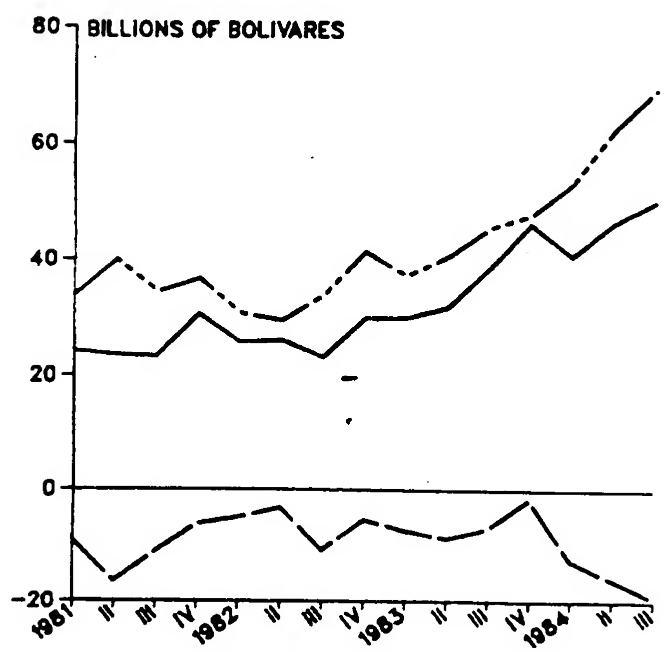
SOUTH KOREA



THAILAND



VENEZUELA



MONETARY BASE
NET DOMESTIC ASSETS
NET FOREIGN ASSETS

APPENDIX

Methodology for Determining Domestic and External Financial Developments

Economists responsible for analyzing financial developments in developing countries examine closely changes in the level of public sector deficits, money stocks, and developments in the balance of payments. Often, however, public sector deficits and balance of payments data appear only after a considerable lag and monetary aggregates are distorted. The data on central banks in the International Financial Statistics (IFS), a monthly publication of the IMF, can serve as a more timely indicator of the direction of fiscal and monetary policies and of the foreign exchange operations of the central bank. [redacted] 25X1

The IFS data on central banks can be arranged into three categories under a balance sheet (see Figure A). Changes in these categories can serve as an indicator of developments in domestic and external economic policies. For example, if a government decided to increase its public sector deficit without immediately raising interest rates, it could sell its debt to the central bank. This causes a rise in central bank loans on the asset side and a rise in both deposits of banks and currency outside banks on the liability side as the government disburses its loan. These measures lead to an increase in domestic demand including increased expenditures on foreign goods, services, and securities. The net result is an increase in domestic inflation and downward pressure on the exchange rate. [redacted] 25X1

If the government decided to reduce the inflationary pressures and prevent an exchange rate depreciation, the central bank could purchase its own currency in the foreign exchange market with its foreign assets or with foreign borrowings. This would cause a reduction in the monetary base. The net result is that the monetary base has changed little or none, while net foreign assets have declined and net domestic assets have increased. A government could continue the policy of running large public sector deficits and indirectly financing them with foreign exchange to suppress inflation and support the exchange rate as long as the central bank possessed or was able to get access to foreign exchange. Once the central bank exhausts its foreign exchange holdings, government deficits financed by the central bank would lead to a rise in domestic inflation and a decline in the exchange rate. [redacted] 25X1

For countries with potential balance-of-payments problems, three scenarios with respect to changes in a central banks balance sheet can serve as warnings:

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Figure A

Central Bank
Balance Sheet

Assets	Liabilities
Net foreign assets	Monetary base
= Foreign Assets	= Currency outside banks
- Foreign liabilities	+ Deposits of banks
Net domestic assets	
= Loans to government	
+ Other loans	
- Deposits of government	
- Other deposits	
- Capital and reserves	

- A rise in net domestic assets, a fall in net foreign assets and little change in the monetary base would indicate that the central bank is financing the public sector deficit and is sterilizing the monetary effects by intervention in the foreign exchange market.

- A rise in net domestic assets, a fall in net foreign assets, and a rise in the monetary base would indicate that the central bank is financing the public sector deficit but is only partially offsetting the monetary effect through intervention in the foreign exchange market.

- A rise in net domestic assets, a rise in the monetary base, and no change in net foreign assets following a fall to a low level would indicate that the central bank is financing the public sector deficit and is unable to offset the monetary effect because the country has exhausted its foreign reserves. 25X1

Conversely, for a country that is undertaking adjustments after experiencing or coming close to a balance-of-payments crisis, three scenarios with respect to changes in the central bank balance sheet can give an indication of its progress:

- A fall in net domestic assets, a fall in monetary base and little or no change in net foreign assets would indicate that adjustment policies are reducing the need for the central bank to purchase its own currency in the foreign exchange market.

- A fall in net domestic assets, a rise in the monetary base, and a rise in net foreign assets would indicate that adjustment policies are resulting in an overall balance-of-payments surplus and that the central bank is purchasing foreign exchange with its own currency.

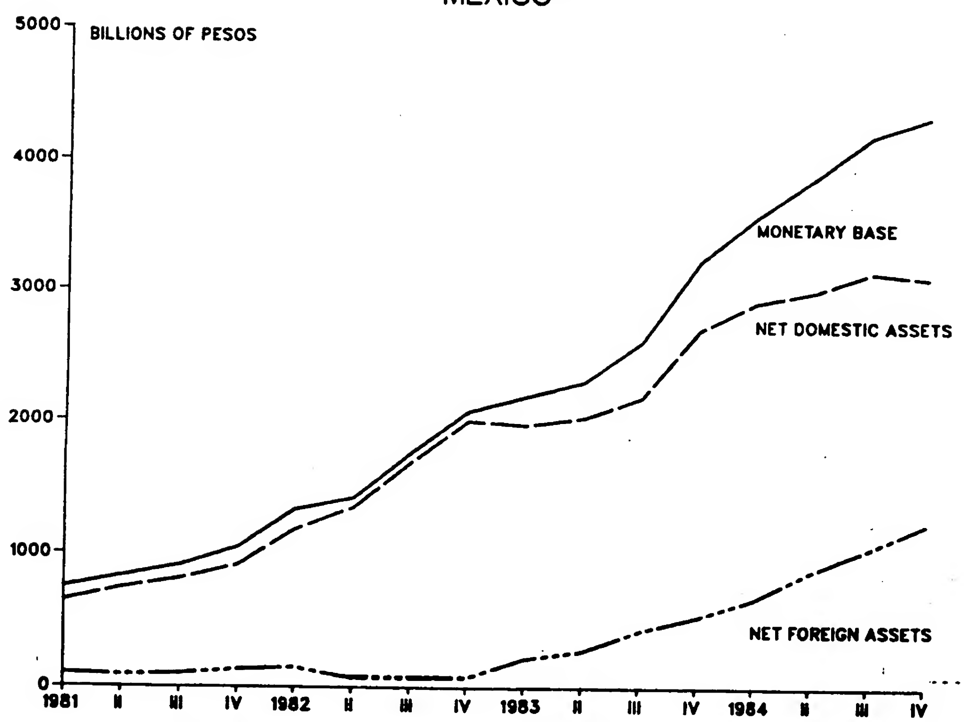
- A fall is net domestic assets, a fall in the monetary base, and a rise in net foreign assets would indicate that adjustment policies are producing an overall balance-of-payments surplus and the monetary effects of central bank purchases of foreign exchange are more than offset by central bank sales of government debt. 25X1

Mexico: A Test of the Methodology

To examine how the methodology performs, Mexico is used as a test case (see Figure B). By early 1982, the central bank had virtually exhausted its foreign exchange reserves and was having difficulty borrowing. As a result, additional deficit financing by the central bank lead to a rapid increase in both net domestic assets and the monetary base. After adopting adjustment measures in late 1982, including a substantial reduction in the public sector deficit, the growth of net domestic assets delined

FIGURE B

MEXICO*



*LATEST AVAILABLE DATA NOV 1984

substantially. The lower public sector deficits along with depreciation of the peso caused a substantial increase in net foreign assets. The Mexican central bank, however, has not neutralized the rapid increase in net foreign assets which is causing the monetary base to still grow at an inflationary rate. [redacted] 25X1

Limitations to the Methodology

Financial analysts using this methodology need to be wary about forming conclusions based only on these data. Other information, such as the competitive value of the exchange rate and major changes in foreign exchange and credit restrictions may distort the indicators. Another drawback is that a few countries submit their central bank data only after a considerable lag. [redacted] 25X1